

**Federal Aviation Administration**  
**Flight Standards District Office, Houston, Texas**  
**NASA Physiological Training**

**WHAT IS IT?**

Physiological training is a program directed toward understanding and surviving in the flight environment. It covers the problems of both high and low altitudes and recommends procedures to prevent or minimize human factor errors that occur in flight.

**WHO NEEDS IT?**

The course is primarily of benefit to pilots. It is also recommended for the other aircrew personnel, Air Traffic Controllers, Aviation Medical Examiners, and other personnel from the national airspace system. For WINGS Program participants, this training fulfills the "Safety Seminar" requirement for the WINGS award.

**WHERE CAN YOU GET IT?**

A resident physiological training course at the NASA-Sonny Carter Training Facility in Clear Lake (Houston), Texas, is available through the FAA Safety Program Manager, Flight Standards District Office in Houston, Texas.

Applicants should not contact NASA for training schedules on an individual basis as training dates and schedules are obtained and coordinated by the FAA Safety Program Manager at the Houston Flight Standards District Office. Each applicant will receive reporting instructions approximately 3 weeks prior to the scheduled training date. Further, since applications are approved on an individual basis, substitutions are not permitted.

**WHAT IS CONTAINED IN THE COURSE?**

The course consists of a "ground school" phase in addition to time in the altitude chamber. **Applicants may attend the "ground school" phase only and receive course completion credit (see "Basic Requirements," below).** The many topics covered in this one-day course include the environment to which the flyer is exposed, physiological functions of the body at ground level, and alteration of some of these functions by changes in the environment.

The higher one flies, the more critical the need for supplemental oxygen becomes. This need is discussed so that the trainee will understand why a pilot cannot fly safely at altitudes in excess of 12,500 feet for a prolonged period without some aid, either supplemental oxygen or a pressurized aircraft. Both oxygen equipment and pressurization are discussed. When humans are confronted with certain stressful situations, there is a tendency to breathe too rapidly. This topic (hyperventilation) and methods of control are discussed. Ear pain on descent and other problems with gases and procedures to prevent or minimize gas problems are explained. Alcohol, tobacco, and drugs are also discussed as they apply to flying. Pilot vertigo is discussed and demonstrated so that the trainee will understand why a VFR pilot or a non-current instrument pilot should never attempt to fly in clouds or other weather situations where

visibility is reduced. The training includes an altitude chamber flight where the trainees experience individual symptoms of oxygen deficiency as well as decompression. **This flight will demonstrate that:**

1. Proper oxygen equipment and its use will protect you from oxygen deficiency.
2. You can experience and recognize symptoms that will be the same as those found in actual flight and therefore take the necessary action to prevent loss of judgment and consciousness.
3. Decompression is not dangerous provided proper supervision is present, and proper action are planned and taken when necessary.

### **WHAT ARE THE BASIC REQUIREMENTS?**

Approval for applicants in the altitude chamber flight portion of the physiological training course is subject to the following considerations:

1. The applicant **MUST HOLD A VALID FAA MEDICAL CERTIFICATE** or, alternatively, acceptable proof of a military flight medical examination, not more than 12 months old.
2. Applicants must meet the same height and weight requirements required of NASA trainees. NASA Height and weight requirements are specified on the back of this page. Applicants not meeting these requirements may still attend the ground school phase of the training and receive credit for the course.
3. The applicant must be free from colds or allergies and have no affliction that could be aggravated by atmospheric pressure changes.
4. The applicant must not have participated in SCUBA diving activities within 24 hours preceding physiological training.
5. An applicant with a beard will not be permitted to participate in the chamber flight.
6. All applicants must be U.S. Citizens or possess valid work permit/student Visa ("green card") to attend the course.

**FOR FURTHER INFORMATION: Contact the Houston Flight Standards District Office, Safety Program Manager, at (281) 212-9700.**

The submission of this application information is authorized by the Federal Aviation Act of 1958 (49 U.S.C. 1301 et. seq.). It is necessary to establish qualifications of eligibility to receive physiological training and will be used as proper evidence of training. Failure to provide this information will result in the denial of your request for training.